Normalising Deviance Within Industry: A Qualitative Analysis of Incident Reports

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SUMMARY

Through the use of content analysis, incident reports were analysed from the normalisation of deviance perspective in order to identify underlying causes and core components of the phenomenon. Preliminary findings highlight the importance of various organisational factors (e.g. production pressure, leadership etc.) in the propagation and maintenance of deviance among operators.

KEYWORDS

Normalisation of deviance, qualitative analysis, incident reports

Introduction

The phenomenon of normalisation of deviance (NoD) has its roots within the aerospace industry, with Vaughn (1996) first coining the term in her analysis of the organisational causes of the Challenger Space Shuttle disaster. Vaughn describes the phenomenon as the gradual erosion of operational norms and standards within an organisation, wherein, in the absence of negative consequences, recurrent procedural deviations within everyday operations increase risk tolerance and non-conformance. Though initial deviations may be perceived as minor or inconsequential, these often pave the way for further higher-level deviations due to shifting perceptions regarding what is viewed as normal and permissible.

Since it was coined, the NoD phenomenon has seen widespread application across numerous high-risk industries, such as healthcare, aviation, rail, oil and gas, and chemical (Sedlar et al., 2021). Sedlar et al. (2021) reviewed existing literature on NoD and provided a synthesis of the current applications and conceptualisations of the phenomenon across these varied industrial sectors, offering a global representation of the phenomenon's occurrence and propagation via a conceptual framework. Within this framework, specific focus was placed on four organisational factors (production pressure, procedure/environment design, leadership, and culture) identified within the literature as having direct influence on NoD.

While the systematic review provides a comprehensive synthesis of the scientific/academic understanding of NoD, it does not offer a portrayal of how the phenomenon is understood and discussed within actual industrial settings. This is especially important in regards to validating and further quantifying the identified organisational factors; which were broadly discussed but not concretely defined within the scientific literature. The current study therefore aims to build on the findings of the systematic review by gathering information from real world settings through the coding of incident reports, helping to further refine our understanding of NoD's application and relevance within high-risk industrial settings.

Methods

The Chemical Safety and Hazard Investigation Board (CSB) database was used to identify and retrieve relevant incident reports. The database contained 101 reports and safety publications at the time of the analysis, 28 of which were identified as applicable to the current study on the grounds that normalisation of deviance was deemed to have played at least a contributory role in the incident.

Given that our interests lie in investigating the factors and concepts related to normalisation of deviance, we chose to utilise conceptual content analysis; for which coding was completed in two stages. Firstly, selective reduction was used to extract relevant sections of the texts. In the present analysis, what was relevant was defined as: anything that was said to have propagated or resulted in deviance from set procedures, normalisation of deviance, and the deviances themselves. Extracts were then inductively coded at a broad thematic level, wherein the semantics of the extracts were coded rather than specific words or phrases. This allowed for better identification of overarching themes and concepts, and reduced the potential influence of author writing styles and/or naming conventions on the outcome of our findings.

Preliminary Findings

Following the initial round of coding, 83 codes were identified. These were reduced to 62 individual codes subsequent to discussions between authors and further amalgamations. These have been categorised into four categories (and corresponding sub-categories): Organisational failures (*production pressure, inadequate operational integrity oversight, and response failures*), Operational conditions (*inadequate infrastructural design or condition, inadequate safeguards, and inadequate procedures*), Management factors (*inadequate leadership and workforce mismanagement*), and Operator-based factors (*failure to obtain and or share critical information, lack of knowledge, awareness, or understanding, and procedure/safety non-compliance*).

Many of the sub-categories closely reflect those identified during the systematic review (Sedlar et al., 2021), particularly with regards to organisational factors pertaining to production pressure, leadership and infrastructural design/condition. A notable difference can however be seen in the omission of workforce culture as one of the influencing factors. Though further analysis and processing of the data is required, the preliminary findings appear largely supportive of our prior systematic review, offering novel insights and discrepancies that may be of further interest in shaping our understanding of NoD within high-risk industry. More in-depth detail on the preliminary finding and potential implications will be discussed at the conference.

References

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